Flood News for Michigan Floodplain Managers

A quarterly newsletter of the
Geological and Land Management Division
Michigan Department of Environmental Quality
http://www.michigan.gov/deq
Steven E. Chester, Director Jennifer M. Granholm, Governor Summer 2003

As a cost savings measure, we are looking at the concept of limiting the number of hard copy mailings of the newsletter and relying more upon electronic distribution and availability. Your input is requested. Please notify me as to whether you would prefer to continue to receive a hard copy mailing of the newsletter, or if access to it via electronic distribution would be acceptable. **Some of you should have already started receiving electronic copies of the newsletter with this issue**. Send your comments to my e-mail address of thomasl@michigan.gov, or mail them to Les Thomas, MDEQ-GLMD, PO Box 30458, Lansing, MI 48909.

DISTRICT FLOODPLAIN ENGINEERING STAFF

SE Michigan: Maria Zingas and Mario Fusco
Livonia 734-953-8905
Jackson/Lansing: Donna Cervelli
Jackson 517-780-7699
Lansing 517-335-6266
Saginaw Bay: Joy Brooks
Bay City 989-686-8025 ext 8364
Grand Rapids/Kalamazoo: Matt Occhipinti
Grand Rapids 616-356-0207
Kalamazoo 616-567-3564
Upper Peninsula: Sheila Meier
Gwinn 906-346-8500
Cadillac/Gaylord: Susan Rundhaug
Cadillac 231-775-3960 ext 6363

CFM EXAM

At the spring 2003 Michigan Stormwater-Floodplain Manager Association's annual conference held in Lansing, there was a breakout session scheduled for the proctoring of the national Certified Floodplain Manager (CFM) exam. Unfortunately, the necessary coordination with the national office did not get completed, and the exam could not be administered.

We intend to be more effective with our planning and provide the proctoring of the CFM exam at next year's annual conference. You can start giving some thought to what your interest might be in becoming a CFM and what training you might need to prepare for the exam. The national association's web site of http://www.floods.org/Certification/certprog.asp has more information that you may find very helpful. Please look for future newsletter articles on this issue.

Who Says Lightning Doesn't Strike in the Same Place Twice or Almost?

While waiting for my departure back to Michigan in the St. Louis, Missouri airport terminal on May 16, 2003, I was trying to comprehend all that I had observed and heard the past week while attending my first national conference of the Association of State Floodplain Managers. The waiting lounge television was airing the CNN news. The last thing we ever expect to hear on national news is something about back home. But, there it was, certainly unfortunate, albeit oddly coincidental, to hear on the final day of the national floodplain conference a news flash of flood conditions, dam failure, and bridge washouts in Marquette, Michigan. Once again Mother Nature reminds us that she rules.

Last year, about 120 miles west of the current Marquette area flooding, in Gogebic County and surrounding area, Mother Nature demonstrated her power by providing abnormally high early spring temperatures, rainfall, and ice jams when there still existed a record cumulative snowpack. The result was rapid snowmelt and severe

flooding, with all-time flood levels being recorded on several rivers and streams in the area. There were no deaths or injuries directly caused by the flood. However, there was a subsequent heart attack victim due to road closures and the extended amount of time it took the paramedics to reach the subject's address due to necessary detours.

In Gogebic County, 200 persons were evacuated, 75 people unemployed due to flood damages, and 152 homes and 18 businesses affected from minor damages to being destroyed. The damage estimate to homes and businesses was over $1.2 million, which occurred mostly in the cities of Ironwood and Wakefield. Roadways and transportation were greatly affected due to being washed out or having developed unsafe culverts and bridges. Damages to public infrastructure were estimated to exceed $10 million in the five-county area of Gogebic, Ontonagon, Houghton, Baraga, and Marquette.

An evaluation of the flood insurance coverage among the affected residents of the impact area found that a total of 12 policies in two communities (City of Ironwood and Ironwood Township) were in effect. The damage assessment identified 170 damaged structures in the county. Not all of the 12 policies covered damaged homes. In the City of Wakefield, which is a participating National Flood Insurance Program (NFIP) community and is where much of the damage occurred, there were no flood insurance policies in effect. Flood insurance coverage rate in Gogebic county and other affected counties amounted to only 1 percent of the eligible structures. Within the five county area there are 12 participating communities and only a total of 105 NFIP policies in effect. **Structures that were eligible for flood insurance but were not covered will not receive any NFIP assistance for damage repair and replacement.**

The most recent flood event that I heard about on CNN commenced the evening of May 14, 2003. A high rate of rainfall in central and western Upper Peninsula and already saturated soils led to a stormwater runoff event, which resulted in stream flood flows and increased water levels in the Silver Lake Basin. The basin's high water level initiated the release of water from the safety plug spillway area on the earthen dam of Silver Lake Basin.

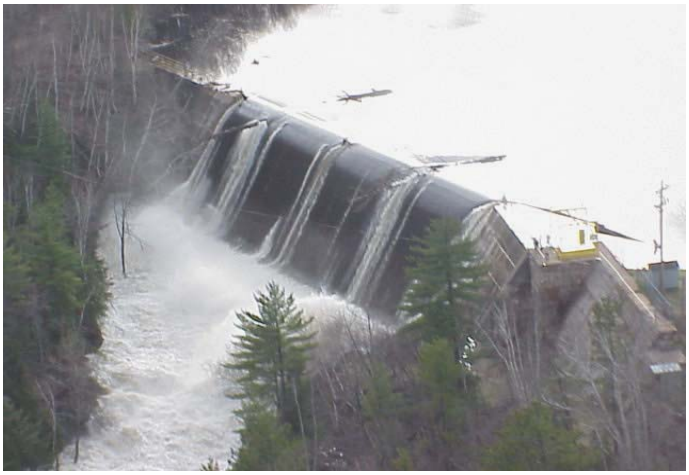
The structure is part of the Wisconsin Public Service/ Upper Peninsula Power Co. operations on the Dead River. The 1,000-acre Silver Lake Basin breached, and the water level lowered 17 feet by the morning of May 15, 2003. This rapid release and large volume of water posed a threat to the next downstream dam known as the Hoist dam. The Hoist dam has a head of 100 feet and creates, under normal water level control conditions, a 2,500-acre reservoir.


Silver Lake Dam


Silver Lake


Channel Cut From Breach at Silver Lake

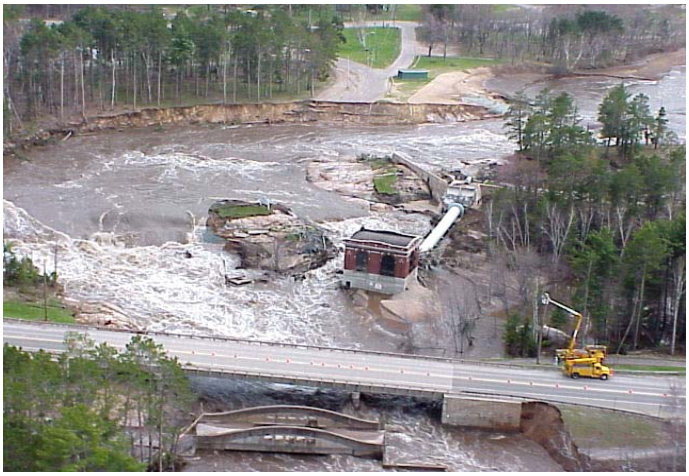

Hoist Dam

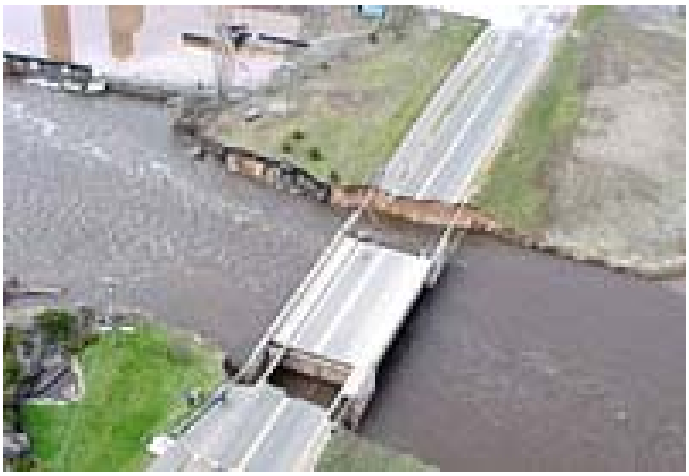

McClure Dam


Forestville Dam

The high water conditions at the Hoist Dam was managed and controlled such that the dam did not fail, and the flood waters were successfully passed down stream to the next impounding structure, McClure Dam. The flood flows were safely passed at this dam.

The flood flows continued on and overtopped the Forestville Dam and the Collinville Dam without their failure.


Tourist Park and 550 Bridge


Lakeshore Boulevard


Tourist Park

However, at the last dam structure on the Dead River, the Tourist Park Dam, located within the City of Marquette, the flows were sufficient to cause damage to the dam on the afternoon of May 15, 2003. The structural damage caused flood flows to flood the Wisconsin Electric Power Co./Presque Isle Power Plant and to wash out the Lakeshore Boulevard access road to the power plant and about 20 homes. The power plant operation was suspended and led to the shutdown

of the Empire and Tilden iron ore mines, which are the largest employers in the area.

Wisconsin Electric Presque Isle Power Plant

Advance notice and timely actions by local emergency management staff during the initial stages of the event resulted in a recommended evacuation of 15 homes in Negaunee Township and the forced evacuation of a 485-acre impact area in the northern section of the city. This area of the city represents a mixture of residential, commercial, and industrial properties, which included 1,752 residents and 806 buildings. No deaths or injuries resulted from the event.

Within the Dead River flood impact area, two communities are participants in the NFIP. They are the City of Marquette and Marquette Township. Flood zone maps have been developed for the city, but not the township. However, national flood insurance is still available when maps are not. In such cases, the premium rates are based upon a default determination using the C flood zone for all properties within the community. This rate basis results in all policy premiums being at lower rates than the greater flood zones of A and B, until such time that maps have been produced.

Within the federal program, federal rules set the basis for all rate calculations across the country. The base rates are the same for everyone. The differences between the actual premiums of individual policies are due to differences in the type of structures, the structures' proximity to the various flood prone areas, the total amount of purchased coverage, and whether the community is involved in the NFIP Community Rating System (CRS) program.

As was demonstrated in the 2002 spring flood event in the Gogebic County area, so has it been demonstrated in this recent flood event that impacted properties within the NFIP participating communities were eligible to be covered by national flood insurance, but very few were. There were only five flood insurance policies in effect, and they were for properties in the City of Marquette. Marquette Township had no effective flood insurance policies. The five policies represent $565,900 worth of coverage, and the total annual premiums amount to $1,951. A final evaluation of the flood event's total impacts has not been made available yet. Indications have been that within the city, four or five residences were impacted, along with a few businesses. At this writing it is not known whether any of the impacted residences or businesses were covered by the five effective policies. Even if some were, it appears to be a fair evaluation that **many impacted structures that were eligible for flood insurance were not covered and consequently will not receive any NFIP assistance for damage repair and replacement**.

Having flood insurance under such flood situations is not going to be the total answer to mitigating losses. However, it would go a long way to begin to compensate any losses, such as fixtures and appliances generally needed to maintain a functional home. This situation demonstrates the real value of having coverage, even if not required, because you're not applying for a loan or you are outside of the 100 year flood zone, but, still within an identified lesser floodprone area. This is especially worth consideration when one's community participates in the NFIP and insurance is available at the very reasonable NFIP rates. The rates are set by federal regulation 44 CFR 61.9 Flood Zone A areas range from $.68 to $.84 per $100 worth of coverage for structure only, and for contents the range is $.79 to $1.58 per $100 worth of coverage. Any community may want to give further consideration to participating in the NFIP. Questions about the NFIP and requests for application packets, including sample resolutions/ordinances, can be submitted to Les Thomas, MDEQ-GLMD, PO Box 30458, Lansing, MI 48909, or e-mail thomasl@michigan.gov, 517-335-3448. (Photos are from the City of Marquette's web page)

Web Site References	
Michigan Department of Environmental Quality (MDEQ) Floodplain Management Program, http://www.michigan.gov/deq select **Water** and then select **Water Management** and then choose the specific area(s) you're interested in.	FEMA, National Flood Insurance Program (NFIP), http:/www.fema.gov/fima/nfip.shtm
Michigan State Police (MSP), Emergency Management Division (EMD), http://www.michigan.gov/msp, select **Services to Governmental Agencies,** and then select **Emergency Management Division**.	National Association of State Floodplain Managers (ASFPM), http://www.floods.org
Michigan Stormwater-Floodplain Association, (MSFA) http://www.mifloods.org	Federal Emergency Management Agency (FEMA), http://www.fema.gov

FEMA Flood Hazard Map Modernization Efforts are Underway in Michigan

Preliminary activities are underway in Michigan as part of the Federal Emergency Management Agency's (FEMA) initial map modernization 2003 funded efforts. FEMA has commenced a process within six selected counties to begin the compilation of existing flood data for each county. Collected data will be used to develop, within the next 12 months, proposed GIS formatted digital flood hazard map products that will be internet accessible. For fiscal year 2003, the United States Congress authorized $200 million to initiate FEMA's long-term plan for modernizing the nation's flood map inventory. The President has put in an additional $200 million in his fiscal 2004 budget to continue the government's support of FEMA's map modernization program.

Michigan's flood hazard map inventory has aged. About 54% of the existing inventory is more than 15 years old. Additionally, about 1,000 communities do not have any flood hazard maps. In preparation for the FEMA map modernization efforts, Michigan floodplain management staff prepared an implementation plan to assist FEMA in the development of regional and national plans for the program's implementation. The plan detailed program goals, Michigan's role in modernization efforts within the state, the management and performance monitoring of the activities, and identification of mapping priorities for the various counties throughout the state. FEMA's goals are:

- Reduce the average age of the flood maps.
- Produce digital flood hazard maps with up-to-date flood hazard data.
- Develop flood hazard maps for one half of the unmapped, floodprone communities in the state.

This plan identified the statewide county mapping needs and prioritized them by identifying counties with communities having floodplain problems and areas where no maps are available. The second highest priority was given to communities with existing maps that are obsolete due to age or errors. These established priorities were then compared to the Government Performance Results Act measures that will be used to evaluate the Map Modernization Program performance in meeting the program goals. The end result was a final recommendations list to FEMA for communities that should be given priority consideration for FEMA's assistance through the flood hazard map modernization program.

FEMA has since solicited from all participating states similar priority lists for a nationwide evaluation and consideration for the allocation of funds dedicated for direct support to the states' efforts in realizing their goals for map modernization. FEMA's initial direction has been to select as many "quick win" projects that would result in effective and useful products within as fast a turnaround time as possible. The rationale for this tact is FEMA's desire to go back to Congress and be able to demonstrate that good, effective, and valuable products can be produced quickly, thereby assisting in the national goals for improved floodplain management. FEMA hopes that such a demonstration will go a long way toward realizing the continued and increased funding of the nationwide map modernization efforts.

Michigan communities and state staff have been fairly successful in demonstrating to FEMA our needs for updated and new mapping efforts. Six counties have been selected by FEMA as communities in which their map modernization efforts will be concentrated this first year of the program. The proposed draft digitally based flood hazard maps is scheduled to be completed in 12 months. The selected communities are Oakland County, Wayne County, Macomb County, Berrien County, Kent County, and Ottawa County. Once the new digital flood hazard maps have been finalized for each of these individual counties, they will then become the official maps for all communities within each county to reference in their floodplain management ordinances and/or resolutions. Any communities within these selected counties that are not currently participating in the NFIP may want to give further consideration to doing so, especially in light of the new countywide digital map products forthcoming. Questions about the NFIP and requests for application packets, including sample resolutions/ordinances can be submitted to Les Thomas, MDEQ-GLMD, PO Box 30458, Lansing, MI 48909, or e-mail thomasl@michigan.gov, 517-335-3448.

FEMA's efforts within each county have started off with community visits for map scoping information collection from all communities within the counties. FEMA's contractor, Fuller, Mossbarger, Scott & May, Engineers, attended these scoping meetings and will be responsible for data collection, compilation, and the revised map production for each of these communities.

Beyond this first year effort by FEMA for realizing quick useful map modernization products for priority communities they are providing states an opportunity to participate in longer term map modernization efforts. The process involves two phases. The first phase is a six month period for individual states to develop their own 5 year business plan and phase two is the implementation period of the approved plan.

Michigan's state flood management staff have recently developed a draft five year business plan detailing its proposal for addressing Michigan's map modernization needs. It outlines a process by which it would, with full funding from the FEMA map modernization fund allocation, be able to realize a significant improvement and updating of the state's flood hazard mapping database. The draft plan is expected to be ready for final submittal to FEMA for their review and acceptance in the near future.

In an effort to provide service to and meet specific needs of floodplain managers and other citizens involved or impacted by floodplain management programs, we are initiating a question/answer segment as a regular item of the newsletter. Staff will select questions, received on a regular basis from the public and from other staff, that they feel may be of interest and value to others. Readers are encouraged to send in questions relative to issues involving floodplain management and the National Floodplain Insurance Program. Staff will review all submitted questions and select those that they believe are applicable to the intent of the newsletter and that can be efficiently researched and clearly answered.

Questions can be e-mailed to thomasl@michigan.gov or sent to Les Thomas, Michigan Department of Environmental Quality, Geological and Land Management Division, PO Box 30458, Lansing, MI 48909-7958.

FEMA's Map Service Center

I recently for the first time went to FEMA's Map Service Center web site to see what it has to offer. I suggest that if you have not been aware of this site or have not taken the opportunity to make a visit that you give it a look. If you have a need to know whether flood hazard maps are available for an area or you need to obtain a copy quickly or just simply view any existing flood hazard maps, this is the tool for you.

The site represents a great resource for the floodplain manager, lenders, realtors, and the public. It provides an ordering and downloading process for available FEMA map products. Also provided is a tool to allow customers to create a "FIRMette", which is a user-defined "cutout" section of the original full size map. Such "cut outs" can then be directly printed on standard paper sizes. This tool allows one to view, zoom in and out, pan the map image, create a "FIRMette", and print it without charge. Go to http://www.store.msc.fema.gov and give it a try.

Q & A

Q: What elevation restrictions or requirements do state and federal floodplain management and building codes impose upon additions to existing residential and nonresidential structures located within the 100-year floodplain?

A: This issue has been reviewed and discussed by state floodplain staff, with staff of the Bureau of Construction Codes of the Department of Consumer & Industry Services, and with Federal Emergency Management Agency (FEMA) staff. The 2000 Michigan Residential Code requires additions to fully comply with the code for new construction. Therefore, within flood hazard areas, additions to type II buildings, which include residential structures, must have the lowest enclosed area, including basement, elevated to one foot above the design flood elevation. Type III and IV buildings, which include such facilities as schools, health care facilities, jails and detention facilities, power generating stations, fire, rescue, and police stations, and emergency vehicle garages, emergency shelters, and structures with critical national defense functions, shall have the lowest enclosed areas, including basements elevated or dry floodproofed, to one foot above the 500-year flood level.

Under this same code, if the value of an addition represents a substantial improvement of the existing structure, then the code also requires all aspects of the existing structure to be brought into compliance with the new construction flood design requirements. This means that the existing structure's lowest enclosed area, including basement, must also be elevated to one foot above the 100-year or 500-year flood elevation, depending on the building type classification.

The code provides for a variance procedure through local board of appeals, Section G105 of Appendix G, if a person wishes to pursue construction that does not meet the code's flood design requirements. However, until one is successful in obtaining such a variance, the standard code requirements remain effective and enforceable. Any approved project variance from the code would become the applicable requirement from the code's standpoint for that project. However, it would not take precedence over any more stringent state or federal floodplain management requirements that would be applicable to the same project.

The National Flood Insurance Program (NFIP) criteria detailed in 44 CFR 60.3 requires that the minimum elevation of the lowest floor (including basement) to be at or above the base flood level for new construction and substantial improvements on residential and non residential structures. When this minimum requirement is compared to the state's minimum requirements, the state's becomes the more stringent and thus the applicable requirements that floodplain management compliance is based upon.

In addition to local building code requirements, a permit may also be required for floodplain activities from the Michigan Department of Environmental Quality, Geological and Land Management Division (GLMD) under the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. A permit would be required from the GLMD for any construction within a floodplain of a stream or drain with a drainage area of two square miles or more. A permit would be required for an addition that increases the horizontal footprint of an existing building. The addition would need to be elevated, and the permit conditions would reinforce the requirements of the 2000 Michigan Residential Code. Part 31 does not address substantial improvement, which must be addressed by communities per the building code, as well as by the NFIP.

Q: What is substantial improvement/damage, and what does it mean? What are the floodplain requirements for a substantially improved/damaged structure?

A: Substantial improvement/damage means any repair, reconstruction, addition, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair begins or before any damage occurred. Substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its pre-damaged condition.

Once the 50 percent threshold is met, the Michigan Residential Code 2000 (MRC), R105.31.1 requires that the flood resistant construction and elevation requirements found in R327 of the MRC be met. This would require that the entire residential structure be elevated to one foot above the design flood elevation (DFE). Per the Michigan Building Code (MBC), a nonresidential structure may be elevated or dry flood-proofed to one foot above the DFE. The design flood elevation will be either the 100-year or 500-year floodplain elevation, depending on the type of structure. The 500-year requirement is generally used for critical facilities (see MBC, Section 1612.4).

The MBC section 1612.1 indicates that substantial improvement does not include: 1) Any project for improvement of a building required to correct existing health, sanitary, or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions; or 2) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

Similar definitions and requirements regarding substantial improvement/damage are also required by FEMA for communities that participate in the NFIP.

Q: Where can one go to locate or find insurance agencies that are actively participating in the writing of flood insurance policies?

A: If your current insurance agent will not write a flood insurance policy for you or will not refer you to an agent the does, and, you have not been able to find an agent in the yellow pages, then here are a couple of suggestions that should work for you. First suggestion is that you can call the toll-free number of 1-888-379-9837 to get some assistance. This is an assistance number provided by FEMA where FEMA staff will check a database that they maintain for flood insurance agents around the country. By providing the staff person with your location/zip code, they should be able to work with you to identify agents within or near your zip code.

The second suggestion is to search the web for flood insurance agents. I did a little searching myself to see what I might find and was rather surprised at how plentiful the choices were. I searched under "flood insurance agents". Give it a try, and good luck.

For questions, comments, or information, contact:

Les Thomas
MDEQ
GLMD
P.O. Box 30458
Lansing, MI 48909-7958

Telephone: 517-335-3448
Fax: 517-373-9965
e-mail: thomasl@michigan.gov

The MDEQ will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to:
MDEQ
Office of Personnel Services
P.O. Box 30473
Lansing, MI 48909

This newsletter is supported by funding under a Cooperative Agreement with the Federal Emergency Management Agency. The substance and findings are dedicated to the public. The MDEQ, GLMD, is solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the federal government.

Printed by Authority of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Total Number of Copies Printed: 2600
Cost Per Copy: $ .28
Total Cost: $ 721.00

EQC2760

Flood News for Michigan Floodplain Managers
Geological and Land Management Division
Department of Environmental Quality
P.O. Box 30458
Lansing, MI 48909-7958

Flood News for Michigan Floodplain Managers

A quarterly newsletter of the
Geological and Land Management Division
Michigan Department of Environmental Quality